

REMARKS

Claims 1-2 and 4-29 are pending, with claims 1, 8, 13, 18 and 23 being independent. Claim 23 has been amended. No new matter has been added. Reconsideration and allowance of the above-referenced application are respectfully requested.

Interview Summary:

Examiner Hyun and Examiner To are thanked for the interviews, which were conducted with Mr. Hunter on January 4, 2007. During an initial teleconference with Examiner Hyun, the claim objections were briefly discussed, and Mr. Hunter pointed out that the language "configurable to", "configured to" and "capable of" does not constitute optional language, as suggested in the Office Action. Agreement was reached that this statement regarding the "configurable to", "configured to" and "capable of" language constitutes a clarification that this language limits the scope of the claims.

During a follow up teleconference with Examiner Hyun and Examiner To, independent claim 1 and the Sawada reference were discussed. Mr. Hunter pointed out that (1) the prior agreement reached regarding the last amendment to the claims has been improperly rescinded, (2) the inclusion of a discard flag in an entry of a table of Sawada for a given combination of a

destination address and a source address does not make the given destination address a predetermined non-forwarding destination address since another packet with that same destination address (and a different source address) can also be forwarded in accordance with the same table, and (3) even if such a destination address in the table of Sawada can be considered a predetermined non-forwarding destination address, such a destination address cannot be considered invalid for packets traveling between networks. No agreement was reached on any of these three points.

Claim Objections:

Claims 1 and 14 stand objected to for suggested informalities. As discussed in the interview with Examiner Hyun, the language "configurable to", "configured to" and "capable of" does not constitute optional language and serves the limit the scope of the claims. In view of this, and the agreement reached during the interview, it has now been clarified that this language limits the scope of the claims, and withdrawal of the objection to the claims is respectfully requested.

Claim Rejections under 35 U.S.C. § 101:

Claims 23-29 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. This contention is respectfully traversed.

Independent claim 23 has been amended to remove "a propagated signal" from the claim. In view of this, withdrawal of the rejections under 35 U.S.C. § 101 is respectfully requested.

Claim Rejections under 35 U.S.C. §§ 102 and 103:

Claims 8, 9, 11, 13, 15, 18 and 19 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Sawada et al. (US Patent 2002/0016858). Claims 1-7, 10, 12, 14, 16, 17 and 20-29 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sawada et al. These contentions are respectfully traversed.

Sawada is directed to a packet communications apparatus that allows a network administrator to restrict access to particular source addresses for the purposes of security. In contrast with the source-based filtering solution for security of Sawanda, the present application is directed to filtering of packets with predetermined non-forwarding destination addresses. The independent claims clearly state that a routing data structure is

used to effect destination address filtering, where packets are dropped if they contain a predetermined non-forwarding destination address. Such non-forwarding addresses are destination addresses that are invalid for packets traveling between networks (e.g., deprecated broadcast addresses).

Independent claim 1 recites, "a network interface configurable to receive data packets; a processor coupled with the network interface; and a memory coupled with the processor, the memory being configured to instruct the processor to load a routing data structure configured to store information indicating a received data packet is to be dropped if the received data packet includes a predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks." (Emphasis added.)

Independent claim 8 recites, "storing information in a routing data structure, wherein the information indicates that a packet having a predetermined non-forwarding destination address is to be dropped, the predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks." (Emphasis added.)

Independent claim 13 recites, "comparing a destination address of a packet with routing information stored in a routing

data structure, the routing information indicating that the packet either is to be routed or dropped; and selectively routing the packet based on the routing information stored in the routing data structure, said selectively routing including dropping the packet if the destination address comprises a predetermined non-forwarding address comprising a destination address that is invalid for packets traveling between networks." (Emphasis added.)

Independent claim 18 recites, "memory means for storing a data structure comprising a destination address routing table having entries, wherein at least one entry contains an indication that a packet having a predetermined non-forwarding destination address that resolves to the least one entry is to be dropped, the predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks; and processing means for receiving a packet having a destination address from a first network, for checking the destination address against the destination address routing table, and for transmitting the received packet to a second network only if the received packet does not resolve to the at least one entry." (Emphasis added.)

Independent claim 23 recites, "loading one or more routing tables with destination addresses and information selectively

indicating either a next-hop address for a packet or that the packet is to be dropped, wherein at least one of the destination addresses comprises a predetermined non-forwarding address for which the information indicates the packet is to be dropped, the predetermined non-forwarding destination address comprising a destination address that is invalid for packets traveling between networks." (Emphasis added.)

The claimed subject matter allows incorporation of address error checks into a forwarding table, which is a non-obvious usage of a forwarding table that Sawada neither teaches nor suggests. Sawada does not drop packets based on a predetermined non-forwarding destination address, but rather forwards packets based on a registered destination address and a check for a specific source address. (See e.g., Sawada at ¶s 21 and 116, and FIGS. 12 and 15.)

Sawada looks at both the source address and the destination address when making a forwarding determination, and packets with the same server destination address can be forwarded in some cases while dropped in other cases using the same forwarding table. (See e.g., Sawada at ¶ 132 and the description provided in connection with reference numerals 1401 and 1406.) In response to this argument, the Office states, "Sawada teaches that the table (FIG. 12) has a destination address entry with a

discard flag, i.e., a packet having a destination address and a discard flag associated with the destination address is dropped." (See 10/05/2006 OA at p. 9.) This contention cannot be maintained.

The table in FIG. 12 has two entries. The first entry includes a destination address (192.168.1.1) in the destination address condition field 1201, and the flag 1203 for this entry is set to forward. The second entry, which has the flag 1203 set to discard, does not include a destination address, but rather has the destination address condition field 1201 set to "arbitrary". Thus, according to the table of FIG. 12, a packet having the server destination address 192.168.1.1 will be forwarded, and packets having a different server destination address will be dropped.

Moreover, Sawada clearly describes that packets with the same server destination address can be forwarded in some cases while dropped in other cases using the same forwarding table. For example, looking at FIG. 15 in Sawada, consider the case of two packets having the same destination address, 192.168.2.2, where the first packet has the source address 192.168.3.3, and the second packet has the source address 192.168.4.4. In this example, the first packet will be forwarded according to entry

one in the table of FIG. 15, whereas the second packet will be dropped according to entry three in the table of FIG. 15.

Furthermore, assuming for the sake of argument that Sawada teaches a forwarding table including a server destination address and an associated flag set to discard, and that such a server destination address constitutes a non-forwarding destination address due to the association (which is not conceded), this does not make the server destination address a destination address that is invalid for packets traveling between networks. The fact that one device in an inter-network has a forwarding table configured to drop packets having a specific destination address has no bearing on whether that specific destination address is valid or not valid for other packets received by other devices in the inter-network. To suggest otherwise implies that a destination address that is invalid for packets traveling between networks (e.g., illegal addresses, loopback addresses, reserved addresses, deprecated broadcast addresses, etc.) could somehow be made valid by the action of one router in an inter-network changing its forwarding table. This does not makes sense, since those of ordinary skill in the art would recognize that whether or not a given destination address is valid for packets traveling between

networks is governed by the inter-networking protocol, not by the routers that implement that protocol.

For all of the above reasons, independent claims 1, 8, 13, 18 and 23 are in condition for allowance. Dependent claims 2, 4-7, 9-12, 14-17, 19-22 and 24-29 are patentable based on the above arguments and the additional recitations they contain. For example, claims 7, 12, 16, 22, 28 and 29 are patentable because Sawada fails to teach or suggest filtering one or more deprecated directed broadcast addresses as claimed. The Office acknowledges that Sawada does not teach a filtering table including a deprecated directed broadcast address, but then suggests that such would be obvious, without any evidence.

Thus, a prima facie case of obviousness has not been established. The arguments presented in the prior responses regarding claims 7, 12, 16, 22, 28 and 29 have not been addressed by the Office. Since the Office acknowledges that Sawada fails to disclose an element of the claims, and provides no evidence of motivation to add that element to Sawada or how such element could be added to Sawada, the rejection of claims 7, 12, 16, 22, 28 and 29 is clearly suffering from both legal and factual deficiencies and should be withdrawn.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific issue

or comment does not signify agreement with or concession of that issue or comment. Because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

It is respectfully suggested for all of these reasons, that the current rejections are overcome, that none of the cited art teaches or suggests the features which are claimed, and therefore that all of these claims should be in condition for allowance. A formal notice of allowance is thus respectfully requested.

No fees are believed due with this response. Please apply any necessary charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date:

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for

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